

2014 Annual Summary

January started off where 2013 left off with more dry weather. The month started off quiet for the first week. But then the storm door opened briefly. Light snow fell in many locations on the 7th and 8th, but it didn't last long as temperatures warmed into the 40s and lower 50s. Omak hit 61 degrees on the 13th, while Republic reached 53F. Both were the warmest January day ever for those locations. A wind storm on the 11th brought down trees and power lines at some locations. The rain and melting snow caused flooding in some areas. Then the high pressure returned. Much of the area was blanketed with freezing fog for about two weeks. The month ended with some more snow. The heaviest snow fell near Deer Park, WA where up to 7" was reported.

The dry pattern finally changed in **February**. The persistent ridge of high pressure suddenly gave way, and the storm door opened. First, a cold arctic air mass invaded the Inland Northwest. Nighttime temperatures dropped below zero with daytime readings only in the teens. Republic hit -15F on the 5th, a record low for the day. As the arctic air retreated, snow began to fall. By the 11th, most locations had at least a few inches of snow on the ground. Lewiston, ID had a record 5.3" of snow on the 8th. But another surge of warm air brought another round of melting snow and flooding. This flooding was exacerbated by our frozen ground. The arctic cold snap in early December 2013 arrived with little or no snow cover. This froze the ground harder and deeper than normal. So by February, the rain and melting snow couldn't penetrate the frozen ground, and result in flooding in locations not normally susceptible to it. The exception to this was in the Cascade valleys, where the precipitation remained as snow, and lots of it. Mazama, Winthrop, Holden Village, and Plain all set records for the snowiest February ever. Mazama had 10" of snow or more on 5 different days in February, with a total of 91.8" for the month.

The mid-month warmth in February was only temporary. Another round of cold air at the end of the month brought more lowland snow to the region. A storm on the morning of the 24th produced 5.8" of snow in Kellogg, 6" in Hayden, and 13" at Stehekin in the Cascades. So after an incredibly dry October through January, February turned out cold and wet. In fact, February was considerably colder than January, which is rather rare. As the month closed, we were still well-behind on our winter precipitation. But the snow

pack in the mountains was in much better shape.

Although the winter was very dry, there was still hope that a wet spring could make up for some of our precipitation deficit. The wet weather pattern from February continued into **March**. The entire Inland Northwest was wetter and cooler than normal for March. The month began with cold and stormy weather. Temperatures were about 20 degrees below average. A number of locations failed to reach a high of 20 on the 1st or 2nd. A snow storm on the 1st brought widespread snow to most locations. Clark Fork received 7" of snow on the 1st while Hayden picked up 8". Another storm on the 2nd brought heavy snow to the mountains, with some locations in the Cascades and northern mountains receiving nearly 2 feet of snow. The following day saw more snow in the Idaho Panhandle, with a few inches falling in just a couple of hours.

But then the weather pattern changed significantly. Much warmer air moved into the area as temperatures warmed into the 50s and 60s, melting the newly fallen snow. Normally this would not have caused problems. But the ground was still frozen solid from our early December cold snap. As such, the rain and melted snow couldn't soak into the ground like it normally would. The result was flooding in areas that typically don't experience flood problems. The town of Colfax saw water running down their main street and into some businesses. Several roads were closed by the high water. The flooding was somewhat repeated in the middle of March as a widespread rain event moved through the area. A line of thunderstorms on the 14th blew down trees and power lines in the Spokane and Palouse area. Quieter weather took over for the 2nd half of the month. Republic did pick up 6" of snow on the night of the 26th.

The quiet weather pattern continued into the month of **April**. Temperatures on the 8th warmed into the 70s in many locations, with even a few readings in the lower 80s. Wetter weather returned to the area on the 17th of April as a wet cold front moved through the region. A similar front brought more rain on the 24th. The month ended on a warm note with temperatures in the 70s to mid-80s. But with no thunderstorms, wind storms, or lowland snow, the weather for April was decidedly tranquil.

May saw little change to this somewhat boring weather pattern. The month started on a warm note with temperatures 10 to 15 degrees above normal. The 85 degree temperature in Wenatchee on the 2nd was a record for that date. A wet and windy cold front brought much needed rain to the area on the 9th. Most areas received a quarter to a half inch of rain, but the Deer Park area picked up nearly ¾" of precipitation. But warm weather returned a few days later as many locations saw their first 80 degree readings of the spring on the 15th. Melting snow from this warmth caused a few rivers to rise to flood stage, including the Okanogan River. But temperatures returned to more normal readings as a cold front brought more rain to the region. But this was short-lived as another warm spell arrived by the 23rd. As the month finished out, it was clear that nearly all of the precipitation surplus of February and March was offset by a dry April and May. Some areas in central Washington had received less than 50% of their normal precipitation for the winter and spring.

The summer was a hot one, mainly due to the very warm nights. Average low temperatures for July and August ranked near or above the warmest on record, while high temperatures were not as extreme compared to other hot summers, but still in the top 15.

June was a mostly quiet and pleasant month, weather-wise. We typically have a fair amount of showers and thunderstorms in this month, but the 2014 edition of June was largely lacking in them. The first 3 days of the month saw some thunderstorm activity, including a storm that produced golfball-sized hail near Springdale, WA as well as a storm that caused a 62 mph wind gust at Lewiston. A small but strong weather system brought some heavy rain showers to the Cascades. By the middle of the month, temperatures cooled significantly with highs only in the mid-50s to lower 60s. A large area of northeast Washington and the Idaho Panhandle received 1 to 1.5" of rain over a 3-day period. This was welcome rain given the dry conditions over the past several months. Temperatures warmed back into the 80s and lower 90s by the 23rd. Rain showers brought localized heavy rain on the 27th.

We often say that summer in the Inland Northwest doesn't start until **July 4th**, and this was once again the case. This year it warmed just in time for the holiday weekend. Little did we know, that was a harbinger for the month. High pressure over our area was strong and unrelenting. Wenatchee Airport hit 100°F or hotter for 9 straight days from the 8th

through the 16th, it's longest streak ever. Spokane reached 90°F or better for 12 straight days, 2 shy of its all-time record. On the 14th, wet thunderstorms moved through the area starting some new wildfires in the Cascades. On the 17th a dry cold front brought strong winds which caused extreme fire growth on the Carlton Complex fires. The 23rd saw a large outbreak of severe thunderstorms. Large hail damaged cars near Colville while 70 mph winds brought down numerous trees from Spokane to Sandpoint. Power outages were widespread, with some lasting as much as 3 days. The high temperature of 69°F at Spokane the next day was a record cold July 24th. But the hot weather quickly returned as temperatures reached the 100°F mark at Spokane for the first time in 5 years.

The heat continued into the first part of **August**. Another strong thunderstorm event on the 2nd brought down more trees from Spokane to Sandpoint. Many residents who lost power in July were once again affected. A change in the weather pattern occurred on the 12th as thunderstorms brought a widespread dust storm to the Columbia Basin. Wind gusted to 63 mph at Ritzville and 5 injuries resulted from a multi-car accident on I-90 due to blowing dust. Downed trees and power lines were not as widespread or numerous as the previous events. Heavy rain from thunderstorms between the 12th and 15th caused some flash floods and debris flows on the burn-scarred areas of the Cascades. These caused damage to 4 homes and some roads were washed out. Another flash flood event occurred on the evening of the 21st. Heavy rain over the Carlton Complex burn area created a flood that destroyed 10 homes that had survived the fire.

For some folks, autumn is the best season of the year. And the 2014 version didn't disappoint. Overall, it was mild with normal precipitation. **September** started off the season on a cool note. Temperatures on the first few days of the month were below normal with light rain showers. Little did we know at that point that the majority of the rainfall for the month fell in those first few days. Omak received 0.37" of rain on the 2nd, a record for the day. Temperatures remained in the 60s on the 3rd. But the warm weather wasn't over. Four days later temperatures had warmed back into the mid-80s and lower 90s. The temperature rollercoaster continued for the rest of the month as the Inland

Northwest swung between the 60s and the 80s. The morning of the 11th saw the first frost of the season for a few locations, including Nez Perce Idaho which dropped to 28F and Omak which fell to 33F.

October was one of the warmest ever across the Inland Northwest. Abundant sunshine and warm afternoons was the rule. Nighttime temperatures were also mild so backyard gardeners were harvesting throughout the month. The 4th through the 13th saw very mild temperatures for early October. Highs on the 7th reached 80F in Spokane and 87F in Lewiston, while Wenatchee warmed to 90F on the 6th, setting records for the day. The weather did cool down a little on the 11th as a dry cold front moved through the area, bringing blowing dust to the Moses Lake area. A wetter front on the 14th and 15th brought welcome rain to the area. But the warm weather wasn't over. La Crosse reached 81F on the 19th while Pullman topped out at 75F, both of which were records for the day. Eventually, the Pacific fronts became stronger and wetter. A rather wet system brought heavy rain to parts of the area, including Omak which received 0.86" and Odessa which picked up 0.50" on the 22nd, both daily records. Temperatures cooled to more normal readings for late October as another front brought strong winds on the 26th. The wind gusted to 56 mph at Cocolalla and Wenatchee and 53 mph at Lewiston and Deer Park. For the month, Wenatchee had its 2nd warmest October ever, while Lewiston and Spokane had their 3rd and 5th warmest Octobers respectively.

November initially looked like another mild month. Although it was rainy, the temperatures were much above normal, and nighttime lows remained well above freezing. The 32F at the Spokane airport on the 2nd tied for the latest ever first freezing temperature. Lewiston reached 73F on the 6th, a record for the day. But then the remnants of Typhoon Nuri in the western Pacific created a large storm in the Bering Sea. This changed the jet stream pattern and brought an unseasonably cold Canadian air mass into much of the country. Our mild weather was replaced with highs around freezing and lows in the teens. Veterans Day was a rather raw day with a cold northeast wind blowing all day. Priest Lake and Naples dropped to 1F on the morning of the 14th while Odessa

reached 2F. These temperatures persisted for over week. As milder Pacific air pushed out the cold air, snow resulted. Many valley locations picked up a light dusting on the 20th. But the temperatures continued to warm, and subsequent snow was confined to the mountains, where one to three feet fell over a few days. The exception was the Cascade valleys, which picked up 4-8" of snow on the 22nd. The Methow Valley received up to 18" of snow on the 24th, guaranteeing a white Thanksgiving. But for the rest of the area, Thanksgiving was very mild, reaching the 50s and lower 60s with a breezy west wind. A strong cold front dropped the temperatures to sub-freezing for the last day of the month.

December started off and finished on a cold note...with very mild temperatures in between. This period of warmer temperatures lasted from the 4th all the way through Christmas Eve with periods of mainly rain in the valleys and snow in the mountains. During the initial transition from cold to warm areas of freezing rain resulted with light ice amounts in Spokane, Lewiston, and Pullman on the 4th. Temperatures then got very mild and progressively warmer through the 10th-11th. Lewiston reached a balmy 66 degrees on the 11th, which was just one degree shy of the monthly record. A cold front on Christmas Eve finally brought an end to the warm weather with rain changing to snow above 2500 feet. The heavy snow accumulations were confined to the Central Panhandle Mountains with Lookout Pass receiving 11 inches. The month ended with much more winter like conditions. A cooler system on the 27th finally gave Spokane its first accumulating snow of the season with 2 inches, while Coeur D'Alene picked up 6 inches with 9 inches in Kellogg. A very cold arctic air mass moved into the area to finish out the month. Deer Park dropped to -7 degrees F on the 30th.

Site: Wenatchee, WA (Water Plant)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
Average High Temp	41.3	38.6	53.6	64.2	75.3	79.7	92.0	89.2	79.5	66.1	47.0	39.6	63.8
Dep from Normal	+5.4	-4.8	-1.5	0.0	+2.4	-0.1	+3.8	+1.6	+1.2	+2.6	+0.5	+4.8	+1.3

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
Average Low Temp	30.3	25.8	32.5	40.3	50.4	57.1	65.0	63.6	53.1	47.1	31.3	29.4	43.8
Dep from Normal	+4.9	-1.9	-1.8	-0.4	+1.6	+1.5	+3.5	+3.1	+1.4	+5.9	-0.9	+4.2	+1.7

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Precipitation	.56	1.29	.78	.17	.22	.32	.14	.81	.18	1.28	.89	2.24	8.88
Dep from Normal	-.77	+.29	+.17	-.36	-.47	-.34	-.20	+.62	-.12	+.76	-.50	+.71	-.34

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Snowfall	5.0	7.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.5	15.7
Dep from Normal	+1.0	+4.6	+0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	+0.4	-6.2	0.0

Site: Lewiston, ID

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
Average High Temp	40.8	39.9	55.3	62.6	74.8	79.1	96.3	90.8	81.9	69.0	47.7	43.6	65.2
Dep from Normal	-0.8	-6.6	+0.4	+0.3	+3.9	+0.6	+7.0	+2.0	+3.7	+6.4	-0.5	+4.1	+1.7

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
Average Low Temp	30.7	28.6	35.7	39.9	48.2	53.7	64.3	62.5	53.5	46.8	32.8	32.1	44.1
Dep from Normal	+1.1	-2.3	+0.1	-0.4	+1.3	+0.3	+4.7	+3.3	+2.5	+5.7	-1.3	+4.1	+1.6

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Precipitation	1.05	1.37	1.35	1.00	.52	.95	.26	1.17	.25	.99	1.36	1.84	12.11
Dep from Normal	-.03	+.59	+.20	-.32	-1.09	-.29	-.40	+.48	-.42	+.03	+.18	+.87	-.20

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Snowfall	Tr	13.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Tr	Tr	14.0
Dep from Normal	-2.4	+11.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	-3.5	+3.5

Site: Spokane, WA

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
Average High Temp	33.9	32.0	48.5	57.5	69.2	72.8	89.4	84.9	75.7	62.9	41.6	38.0	58.1
Dep from Normal	-0.5	-7.6	-0.4	+0.3	+2.8	-1.0	+6.1	+2.0	+2.8	+4.9	0.0	+5.8	+0.7

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
Average Low Temp	25.6	20.0	30.7	36.2	46.2	50.5	62.0	59.5	50.4	43.7	27.6	27.6	40.0
Dep from Normal	+0.9	-6.4	-0.9	-0.6	+2.4	+0.1	+5.7	+3.7	+3.0	+6.5	-2.2	+5.1	+2.0

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Precipitation	1.01	1.81	2.88	1.14	.56	1.84	.18	.58	.26	1.42	1.34	1.97	14.99
Dep from Normal	-.78	+.48	+1.27	-.24	-1.06	+.59	-.46	-.01	-.40	+.26	-.96	-.33	-1.26

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Snowfall	7.1	17.9	5.8	Tr	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.7	35.0
Dep from Normal	-4.3	+10.2	+2.3	-1.0	-0.1	0.0	0.0	0.0	0.0	-0.1	-6.9	-10.9	-7.7